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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,648	09/22/2003	Walter H. Christiansen	US.03.036	1123

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/667,648

Applicant(s)

CHRISTIANSEN ET AL.

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-14 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-7, 9-14, and 16-18 are pending.

Response to Amendment

1. The rejection of claim 8 under 35 U.S.C. 102(b) as being anticipated by Greene (US Pat. No. 6,344,520) has been rendered moot by the cancellation of this claim.
2. The rejection of claims 1-5, 9-14, and 17 under 35 U.S.C. 102(b) as being anticipated by Greene (US Pat. No. 6,344,520) has been overcome by amendment.
3. The rejection of claim 15 under 35 U.S.C. 102(b) as being anticipated by Allen (US Pat. No. 4,393,181) has been rendered moot by the cancellation of this claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The rejection of claims 1, 3-7, 9-14, and 16-18 under 35 U.S.C. 102(b) as being anticipated by Allen (US Pat. No. 4,393,181) *stands for the reasons of record*.

Regarding claims 1, 3-7, 9-14, and 16-18, Allen discloses: (1) a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin composition (column 1, lines 39-57) comprising an epoxy resin (column 3, line 9 through column 4, line 26), a curing agent (column 1, line 61 through column 3, line 6), and an alkali metal containing cure accelerator compound (column 4, lines 58-65); wherein the curing agent is

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an amine or amide containing curing agent or a phenolic curing agent (column 1, line 61 through column 3, line 6); wherein the epoxy resin is derived from the reaction of an epihalohydrin and a phenol or a phenol type compound (column 3, line 9 through column 4, line 26); and wherein the contacting occurs by a contacting method (column 5, lines 3-15);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (column 4, line 33 through column 5, line 15);

(4) wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition (column 4, line 33 through column 5, line 15);

(5) wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof (column 5, lines 3-15);

(6) wherein the article is a prepreg, wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof, and wherein the contacting occurs in a bath comprising the accelerated resin composition and optionally one or more solvents (column 5, lines 3-15); (7) wherein the substrate is glass or fiberglass in the form of a woven cloth or a mat (column 5, lines 3-15);

(9) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (column 4, lines 58-65);

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(10) wherein the alkali metal containing compound is represented by the formula MOR or $(MO)_n-R$ wherein M is a metal selected from Group 1 of the periodic table of elements, O is oxygen, and R is hydrogen or a substituted or unsubstituted hydrocarbyl group (column 4, lines 58-65); (11) wherein M is lithium, sodium or potassium, and R is hydrogen or a C_1 to C_{40} hydrocarbyl group (column 4, lines 58-65); (12) wherein OR represents a hydroxy, a methoxy, an ethoxy, an n-propoxy, an isopropoxy, an n-butoxy, an iso-butoxy, a sec-butoxy, a tert-butoxy, or a phenoxy group (column 4, lines 58-65); (13) wherein the alkali metal containing compound is selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, sodium methoxide, potassium methoxide, lithium methoxide and combinations thereof (column 4, lines 58-65);

(14) wherein the alkali metal containing cure accelerator compound is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids (column 4, lines 58-65);

(16) wherein the phenol or a phenol type compound is selected from the group consisting of bisphenols, halogenated bisphenols, hydrogenated bisphenols, novolac resins, polyalkylene glycols and combinations thereof (column 3, line 9 through column 4, line 26);

(17) a resin coated article prepared by the process of claim 1 (column 5, lines 3-15); and

(18) a prepreg prepared by the process of claim 1 (column 5, lines 3-15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Allen (Reg. No. 4,393,181) in view of Seltzer et al. (US Pat. No. 4,168,364) *stands for the reasons of record*.

Allen discloses, "These present adducts can be utilized in epoxy resin compositions for use in many applications, such as for coatings and impregnating compositions in the preparation of adhesives for metals, wood, cement and the like, and in preparation of reinforced composite products...A very suitable application is in the preparation of reinforced products and laminates wherein the compositions are applied to fibrous products such as glass fibers or sheets and the material formed into the desired object and cured," (column 5, lines 3-15). However, they do not explicitly disclose: (2) wherein the accelerated resin composition further comprises one or more solvents.

The analogous nature of Seltzer et al. is as set forth in the previous Office action and incorporated herein. Seltzer et al. also use their formulation for making prepreg materials (column 7, lines 39-50). They use a solvent to aid the impregnation process: "The preferred formulations are in the form of solution wherein the curable epoxide resin composition further comprises an inert organic solvent. Such solvents are common organic solvents such as ketones, alcohols, ethers and glycol ethers," (column 7, lines 51-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a solvent, as taught by Seltzer et al., in the composition of Allen because the preferred embodiments of Seltzer et al. include an organic solvent, which aid in the impregnation process.

Response to Arguments

8. Applicant's arguments filed December 4, 2006 have been fully considered but they are not persuasive.

Applicant argues that the teachings of Allen do not apply because they *only generally disclose hydroxides of alkaline earth and alkali metals as "curing agent accelerator" to be utilized in conjunction polyfunctional phenol adducts of polyhydric phenols and amino-triazines. Allen expressly teaches that such curing accelerators are "not preferred" ...Therefore, Allen does not teach or suggest, and actually teaches away from the instant invention.*

The instant invention comprises three core ingredients: (A) an epoxy resin derived from the reaction of an epihalohydrin and a phenol or phenol type compound; (B) a curing agent that is an amine or amide containing curing agent or a phenolic curing agent; and (C) an alkali metal containing cure accelerator compound *see claim for list*. The preferred epoxy materials of Allen (*see column 3, lines 35-44*) satisfy ingredient (A). The curing agent of Allen (*see Abstract; column 3, lines 3-6*) satisfies ingredient (B). Multiple accelerators are disclosed, wherein Allen discloses, "Still other *suitable but not preferred* curing accelerators (catalysts) include the hydroxides of the alkaline earth and alkali metals such as sodium hydroxide, potassium hydroxide, calcium hydroxide, etc," (*see column 4, lines 58-61*).

Although these accelerators are not preferred, they are still set forth as suitable for use in the composition. Furthermore, it has been found that non-preferred and alternate embodiments constitute prior art – *see MPEP 2123*. Therefore, Applicant's arguments are not persuasive.

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Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

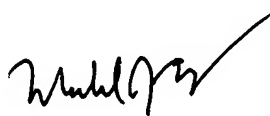
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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely
Primary Examiner
Art Unit 1712

March 4, 2007

MICHAEL FEELY
PRIMARY EXAMINER